

seemed to prefer acorns as a food item. In the present study, the fact that female mice were more commonly taken in the oak trees than were males may be due to competition with the males on the ground. This competition may force the females to utilize an alternative food source in the trees.

I thank Ross Hardy, Don Patten, and Lan Lester for their critical review of the manuscript.

LITERATURE CITED

- Bailey, V. 1932. Mammals of New Mexico. N. Amer. Fauna, 53:1-412.
- Baker, R. H. 1968. Habitats and distribution. Pp. 98-126 in *Biology of Peromyscus*. (J. A. King, ed.), Amer. Soc. Mamm., Spec. Publ. No. 2, xiii + 593 pp.
- Burt, W. H. 1940. Territorial behavior and populations of some small mammals in southern Michigan. Misc. Publ. Mus. Zool., Univ. Michigan, 45:1-58.
- Cahalane, V. H. 1939. Mammals of the Chiricahua Mountains, Cochise County, Arizona. J. Mamm., 20:418-440.
- Drake, J. J. 1958. The brush mouse, *Peromyscus boylii*, in southern Durango. Publ. Mus. Michigan St. Univ., Biol., ser., 1:99-132.
- Long, C. A. 1961. Natural history of the brush mouse (*Peromyscus boylii*) in Kansas, with a description of a new subspecies. Univ. Kansas Publ. Nat. Hist., 14:99-110.
- Storer, T. I., F. C. Evans, and F. G. Palmer. 1944. Some rodent populations in the Sierra Nevada of California. Ecol. Monogr., 14:165-192.
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Accepted for publication October 8, 1973.

NOTES ON SOME BATS FROM A CAVE ON PENINSULA PARAGUANA, VENEZUELA

Cueva del Guano is a limestone cave located on the Peninsula Paraguana, 58 km N and 34 km W of

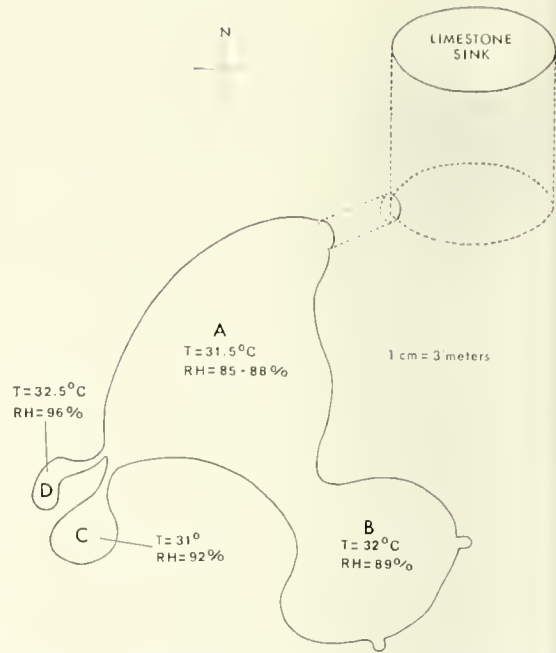


Figure 1. Diagrammatic sketch of Cueva del Guano showing the positions and sizes of the four rooms with temperatures and relative humidities.

Coro, Falcon, Venezuela. The entrance to the cave is about 12 meters below the surface of the ground, in a limestone sink (Fig. 1).

The authors visited the cave to obtain bats on July 10, 11, 22, 23, 27, and 31, 1968. Temperatures and relative humidity readings were recorded for each room on July 22, 23, and 31 (Fig. 1). The outside temperature and relative humidity varied from 28.5°-31° C and 58-66.5 percent, respectively.

Representatives of five species of bats were captured in the cave. These were: *Pteronotus davyi*, *P. parnellii*, *Mormoops megalophylla*, *Leptonycteris curasoae*, and *Natalus tumidirostris*. This represents the first record of *L. curasoae* from the Venezuelan mainland of South America. In the cave, 75 specimens (65 ♂ and 10 ♀) of *L. curasoae* were obtained. Also, 34 specimens (7 ♂ and 27 ♀) of this species were netted in the xeric thorn forest, which was the dominant vegetation of the peninsula (the net area was about 9 km S of the cave). These specimens are now deposited in the United States National Museum of Natural History (catalog numbers: 444758-444819 and 491749-491794); eventually a share of the collection will be returned to Venezuela.

This species was first reported (as *L. nivalis*) from the Colombian mainland of South America by Marinkelle and Grose (*Nature*, 218(5140):487, 1968). Subsequently, other specimens were reported from a second locality, also in Colombia (Marinkelle and Cadena, *Mammalia*, 36:50-58, 1972).

The maximum number of bats in Cueva del Guano was estimated to be between 45,000 and 50,000 individuals. This estimate was determined from a photographic slide, from which we were able to count the number of bats (mostly *P. davyi*) roosting per sq m on the ceiling in room A. This room contained the greatest number of bats, 65 per sq m or approximately 30,000 individuals. Overall, *L. curasoae* and *P. davyi* were the most abundant, while *P. parnellii*, *M. megalophylla*, and *N. tumidirostris* were considerably fewer in number.

On July 10 and 11, *L. curasoae* was estimated to be about five times as abundant as *P. davyi*. However, on subsequent visits, individuals of *P. davyi* were more numerous than they had been, *L. curasoae* being considerably less abundant. In fact, on 27 July only one *L. curasoae* was taken, and by 31 July they were not observed at all. It is interesting to note that *P. davyi* was also recorded to show temporal alternations of abundance with other bats in a Mexican cave (Dalquest and Hall, J. Mamm., 30:423-427, 1949). It is possible that *L. curasoae* and *P. davyi* range over large areas, alternately roosting at different localities.

Leptonycteris curasoae, *P. davyi*, and *P. parnellii* were apparently roosting together on the ceiling in rooms A and B. *Mormoops megalophylla* were taken only from small crevices in the ceiling or on the walls in rooms A, B, and C. *Natalus tumidirostris* was the only species found in room D. In this room we recorded the highest temperature and relative humidity for the cave (Fig. 1). *Natalus tumidirostris* was also captured in room B, from small crevices where the humidity and temperature felt, to our hands, to be higher than in the center of the room. *Natalus tumidirostris* was reported to prefer the driest parts of warm, humid caves in Trinidad (Goodwin and Greenhall, Bull. Amer. Mus. Nat. Hist., 122: 187-302, 1961). However, in that paper the actual temperatures and humidities were not recorded. Therefore, a direct comparison is not possible. It may be that *N. tumidirostris* is forced into the more humid areas of Cueva del Guano because of crowding by the other species of bats.

We thank Charles O. Handley, Jr., Ross Hardy, Jerry R. Choate, and Andrew Starrett for critically reading this paper at various times during its preparation. This paper is a contribution of the Smithsonian Venezuelan Project, supported by the United States Army Medical Research and Development Command (DA-49-193-MD-2788).

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Accepted for publication August 8, 1973.

TANTILLA TAENIATA (BOCOURT) ADDITION TO THE SNAKE FAUNA OF EL SALVADOR

Tantilla taeniata (Bocourt), a relatively wide ranging member of the genus, is known to occur from southeastern Oaxaca, México to central Nicaragua (Wilson and Meyer, Herpetologica, 27:11-40, 1971; Wilson and Hahn, Bull. Florida St. Mus., 17:93-150, 1973; Wilson and Villa, Bull. So. California Acad. Sci., 72:93-96, 1973). This species has not been recorded from El Salvador, however, and this paper documents its occurrence there.

Tantilla taeniata is known from relatively few specimens (12 to date), and it appears that almost every specimen collected since the last review is contributing markedly to the expansion of the diagnosis of this species. The present specimen is no exception.

The specimen of *T. taeniata* from El Salvador (University of Utah 4716) was collected at an elevation of 1000 m on Volcán de Conchagua, 4 km S La Unión, Depto. La Unión. It is a female with the following characteristics: 143 ventrals (this count is probably ± 1 scale from the actual number because several ventrals are missing; I made the count by shifting to the lowermost dorsal scale row to skirt that point); tail incomplete; dorsal scale rows 15-15-15; anal plate single (all *Tantilla*, of course, characteristically have a divided anal plate); supralabials 7-7 (3rd and 4th entering orbit); infralabials 6-6, first pair not in medial contact, 4 in contact with anterior chin shields; preocular single and in contact with postnasal; postoculars 2-2; temporals 1+1.

The dorsum is brown and the pale stripes are tan edged with dark brown. The middorsal pale stripe occupies the middorsal scale row and the adjacent halves of the paravertebral rows, and the lateral pale stripe occupies the adjacent halves of rows 3 and 4. Both stripes continue onto the tail. The anterior end of the middorsal stripe is separated by 4 scales from the nape band. The first dorsal scale row is divided into dark brown upper and cream lower halves. The venter is immaculate cream. The tan nape band is complete, covers the tips of the parietals and 1 $\frac{1}{2}$ scales posterior to the parietals, and crosses the posterior half of the last supralabial. Pre- and postocular pale blotches are present.

I have presented a relatively detailed description of the scutellation and color pattern of this specimen because it is peculiar in one respect and I need to justify my allocation of it to *T. taeniata*. The color pattern of UU 4716 is like that of all other specimens of *T. taeniata* that I have examined, especially with respect to the diagnostic characteristics of the species, viz., a pale middorsal stripe occupying the middorsal and adjacent halves of the paravertebral rows, a pale lateral stripe occupying the adjacent halves of rows 3 and 4, first scale row divided into dark upper and pale lower halves, and a complete nuchal collar crossing the last supralabial.